



Body Builders Layout Book

CHANGE CONTROL INDEX			
LTRS	REVISIONS		
ORIGINATOR	CHECKER	ENGINEER	
CHJC24-1B347-AA-00		INITIAL RELEASE	
CHJC24-1B347-AA-00-FNA-ECN		20171012	
KVINOTH4	RWAGNE43	JLEMANSK	



Body Builders Layout Book

1

E-SERIES

E-SERIES INDEX

2018

MODEL YEAR

E-SERIES

Page

E-Series Cutaway / Stripped Chassis

Model Lineup	2
Dimensional Data	3-11
Axle / Tire / Wheelhouse / Vehicle Height Data	12-13
Ground Clearance – Approach & Departure Angles	14
Battery Box Locations	15
Fuel Filler Pipe	16
Dimensional Data Cutaway 138" WB	17
Back of Cutaway Cab Profile Dimensions	18
Front Surface Area Worksheet	19-20
Aft-of-Axle Fuel Tank Evaporative Emissions Canister Location	21
Seat Position – E-250/350/450.Super Duty Cutaway	22
Seat Track Travel / H-Point Location	23





Body Builders Layout Book

2

E-SERIES

E-SERIES MODEL LINEUP

2018

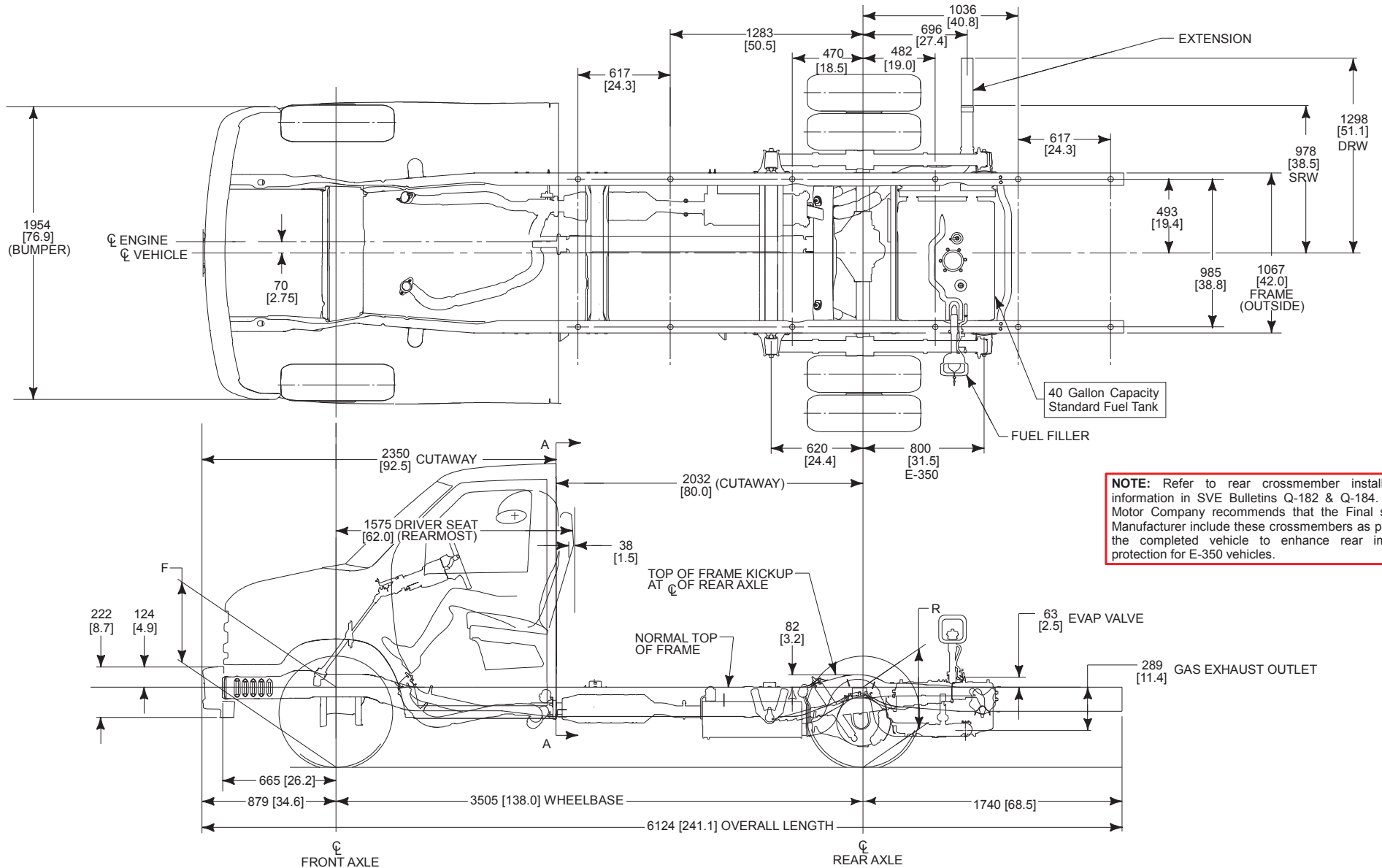
MODEL YEAR

Model	WB (in.)	Engine/ Trans.	Maximum GVWR (lbs.)	Maximum Payload (lbs.)	Spring/GAWR (lbs.) ⁽¹⁾		Base Curb Weight (lbs.)		
					Front Range Min.- Max.	Rear	Front	Rear	Total
E-350 Cutaway	138 SRW	6.8L/6R140	10,050	5180	4200	6084	2923	1941	4864
		6.2L/6R140	10,050	5230	4050	6084	2891	1921	4812
	138 DRW	6.8L/6R140	11,500	6360	4200-4600	7800	2949	2187	5136
		6.2L/6R140	11,500	6420	4050-4600	7800	2920	2159	5079
	158 SRW	6.8L/6R140	10,050	5120	4200	6084	3022	1906	4928
		6.2L/6R140	10,050	5190	4200	6084	2915	1937	4852
E-350 Cutaway	158 DRW	6.8L/6R140	11,500	6280	4200-4600	7800	3056	2158	5214
		6.2L/6R140	11,500	6370	4050-4600	7800	2997	2130	5127
		6.8L/6R140	12,500	7340	4600-5000	8500	3041	2114	5155
		6.2L/6R140	12,500	7330	4600-5000	8500	3016	2147	5163
	176 DRW	6.8L/6R140	12,500	7260	4600-5000	8500	3133	2104	5237
		6.2L/6R140	12,500	7310	4600-5000	8500	3093	2089	5182
E-350 Stripped Chassis	138 DRW	6.8L/6R140	11,500	6870	4400-4600	7800	2421	2204	4625
		6.2L/6R140	11,500	6979	4200-4600	7800	2343	2178	4521
	158 DRW	6.8L/6R140	12,500	7820	4600-5000	8500	2480	2198	4678
		6.2L/6R140	12,500	7910	4600-5000	8500	2406	2175	4581
	176 DRW	6.8L/6R140	12,500	7760	4600-5000	8500	2535	2197	4732
		6.2L/6R140	12,500	7860	4600-5000	8500	2462	2178	4640
E-450 Cutaway	158 DRW	6.8L/6R140	14,200	8750	4600	9600	3042	2404	5446
		6.8L/6R140	14,500	9090	5000	9600	3021	2386	5407
		6.2L/6R140	14,000	8630	4600-5000	9600	3008	2361	5369
	176 DRW	6.8L/6R140	14,200	8720	4600	9600	3128	2349	5477
		6.8L/6R140	14,500	9060	5000	9600	3105	2330	5435
		6.2L/6R140	14,000	8610	4600-5000	9600	3078	2305	5383
E-450 Stripped Chassis	158 DRW	6.8L/6R140	14,500	9690	5000	9600	2531	2274	4805
		6.2L/6R140	14,000	9290	4600-5000	9600	2456	2254	4710
	176 DRW	6.8L/6R140	14,500	9640	5000	9600	2566	2292	4858
		6.2L/6R140	14,000	9230	4600-5000	9600	2490	2272	4762

(1) Gross Axle Weight Rating is determined by the rated capacity of the minimum component of the axle system (axle, wheels, tires) of a specific vehicle. Front and rear GAWRs will, in all cases, sum to a number equal to or greater than the GVWR for the particular vehicle. Maximum loaded vehicle (including passengers, equipment and payload) cannot exceed the GVWR or GAWR (front or rear).

E-SERIES DIMENSIONAL DATA

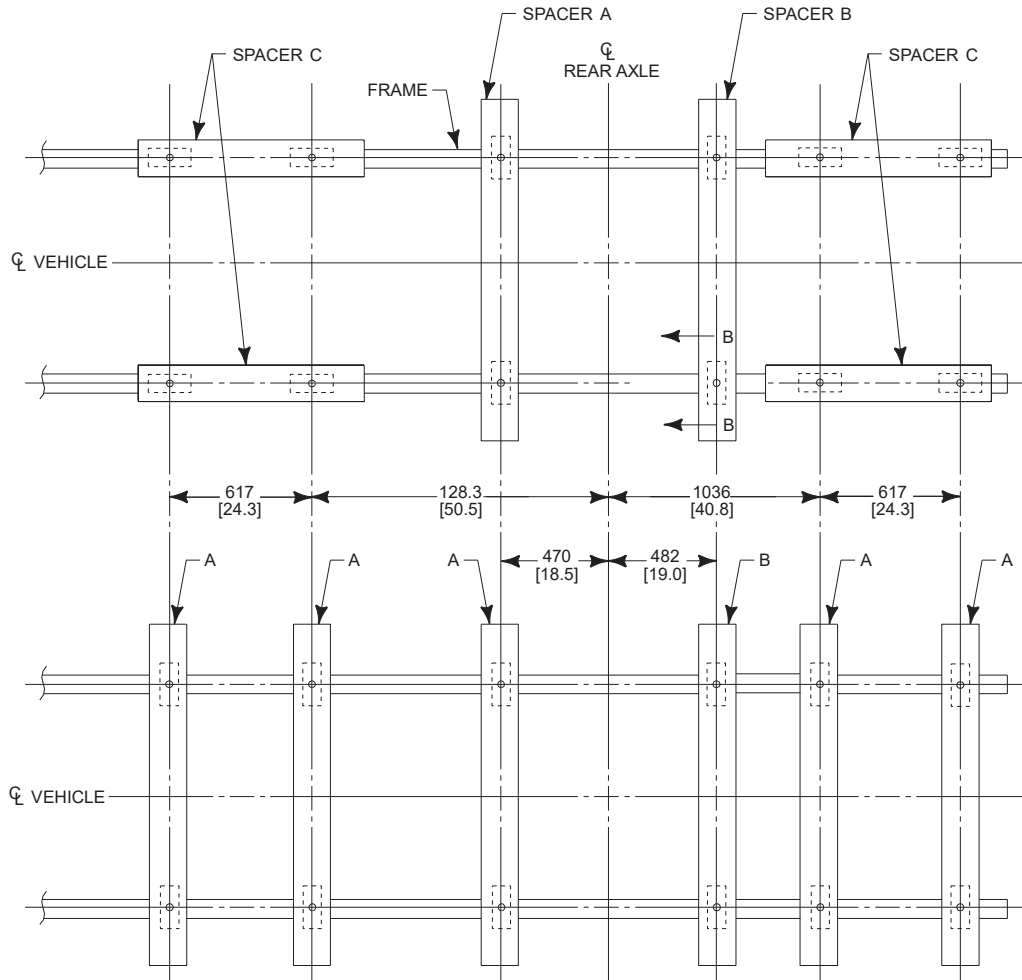
E-350 SUPER DUTY CUTAWAY 138" WB (SRW / DRW)



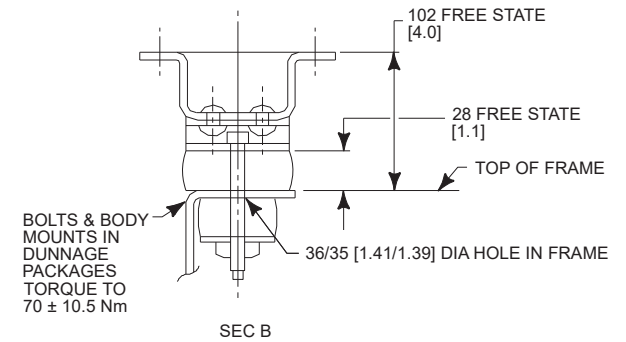
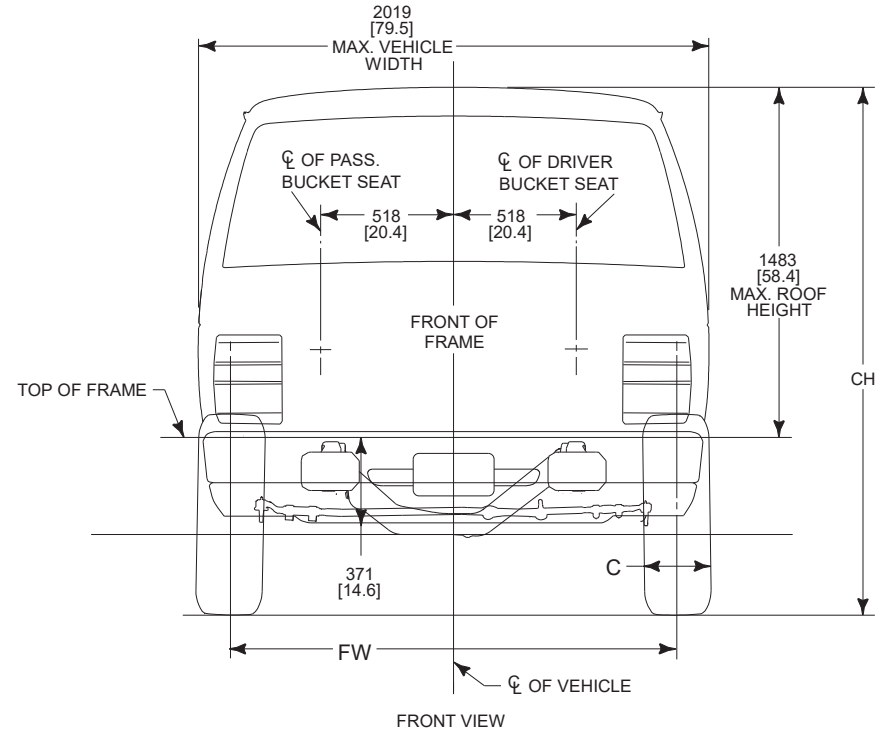
NOTE: Refer to rear crossmember installation information in SVE Bulletins Q-182 & Q-184. Ford Motor Company recommends that the Final stage Manufacturer include these crossmembers as part of the completed vehicle to enhance rear impact protection for E-350 vehicles.

E-SERIES DIMENSIONAL DATA

E-350 SUPER DUTY CUTAWAY 138" WB (SRW / DRW) (Cont'd)



INCLUDES 6 LATERAL FRAME SPACERS WITH 12 BODY MOUNTS. USES SAME FRAME HOLES FOR LONGITUDINAL/LATERAL FRAME SPACER STANDARD SYSTEM.

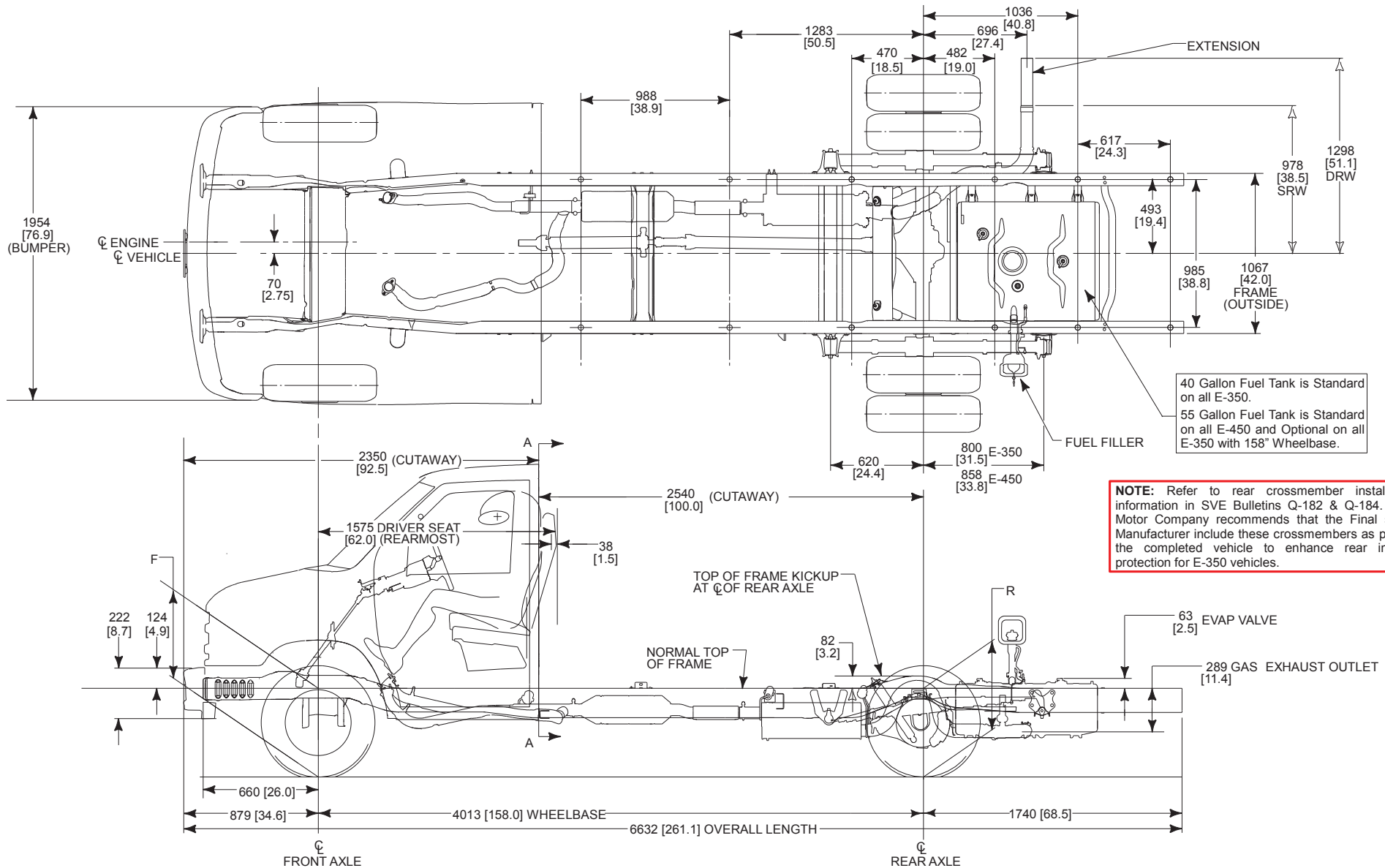


NOTE — [] DIMENSIONS ARE INCHES.



E-SERIES DIMENSIONAL DATA

E-350/450 SUPER DUTY CUTAWAY 158" WB (SRW / DRW)

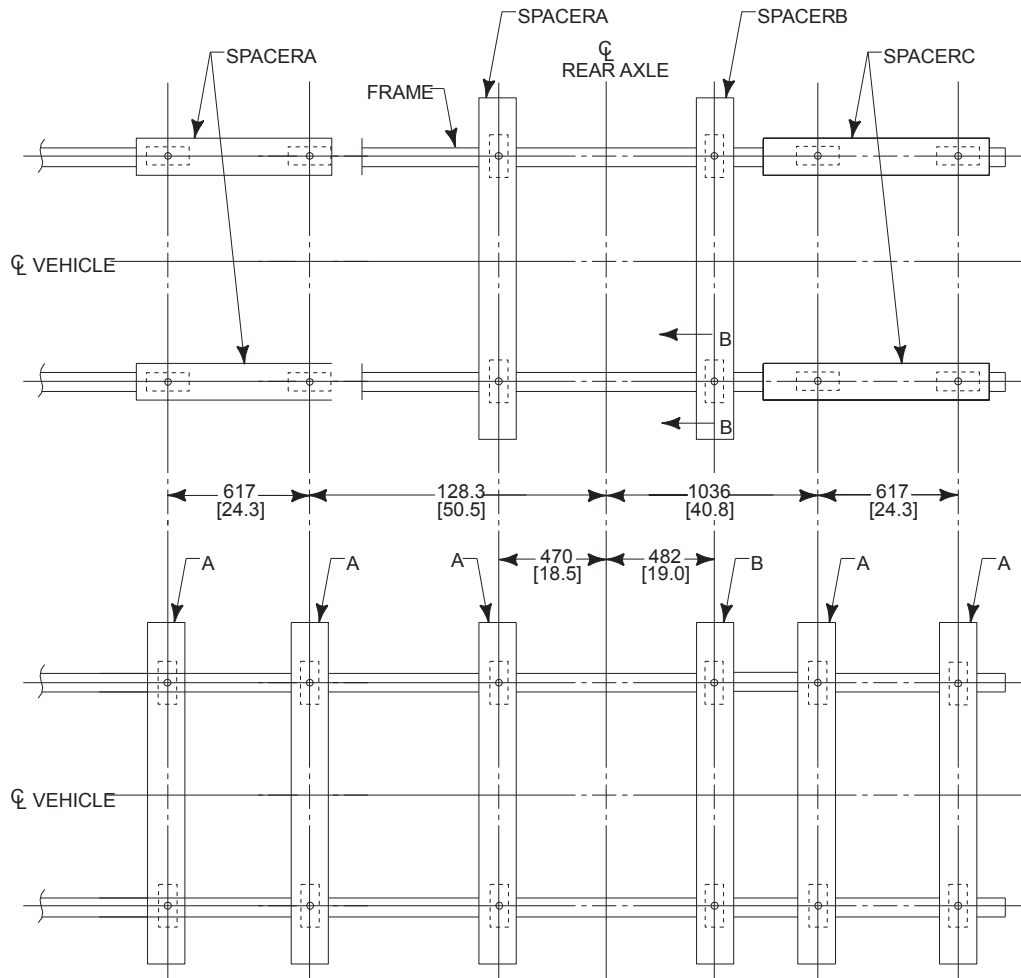


NOTES — [] DIMENSIONS ARE INCHES.
— FOR CA DIMENSION, SEE MODEL LINE UP.

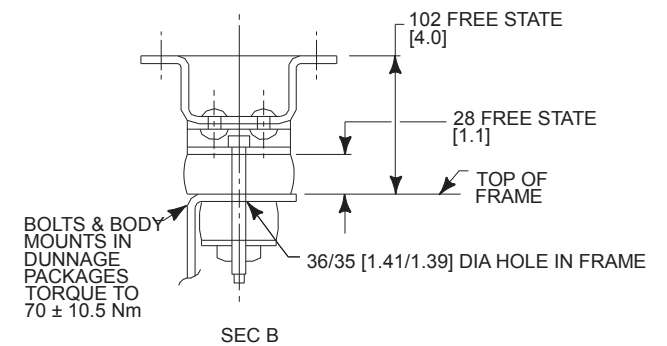
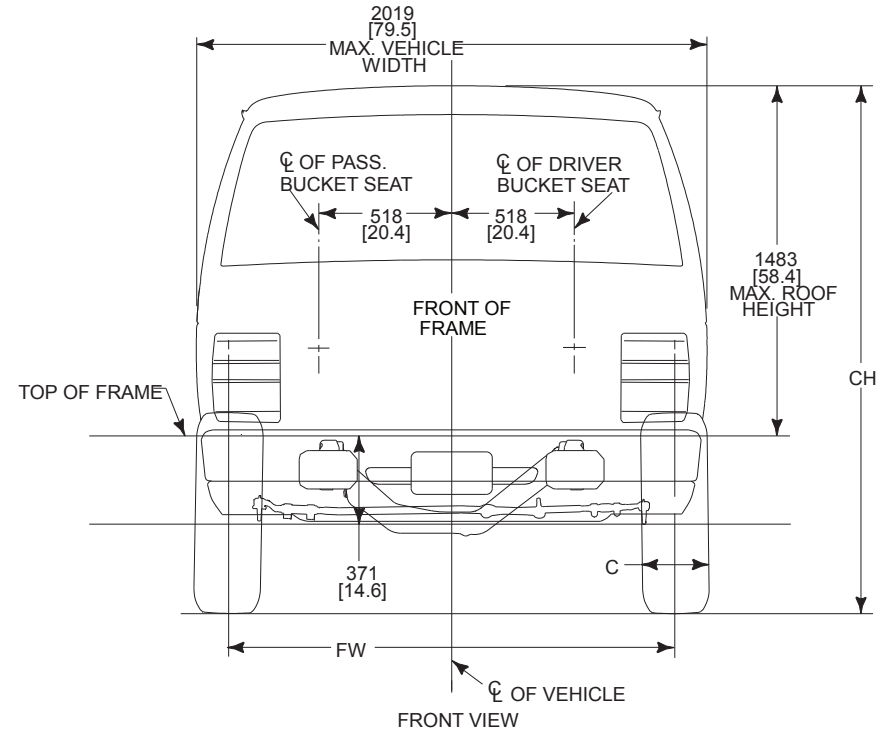
(Cont'd next page)

E-SERIES DIMENSIONAL DATA

E-350/450 SUPER DUTY CUTAWAY 158" WB (DRW) (Cont'd)

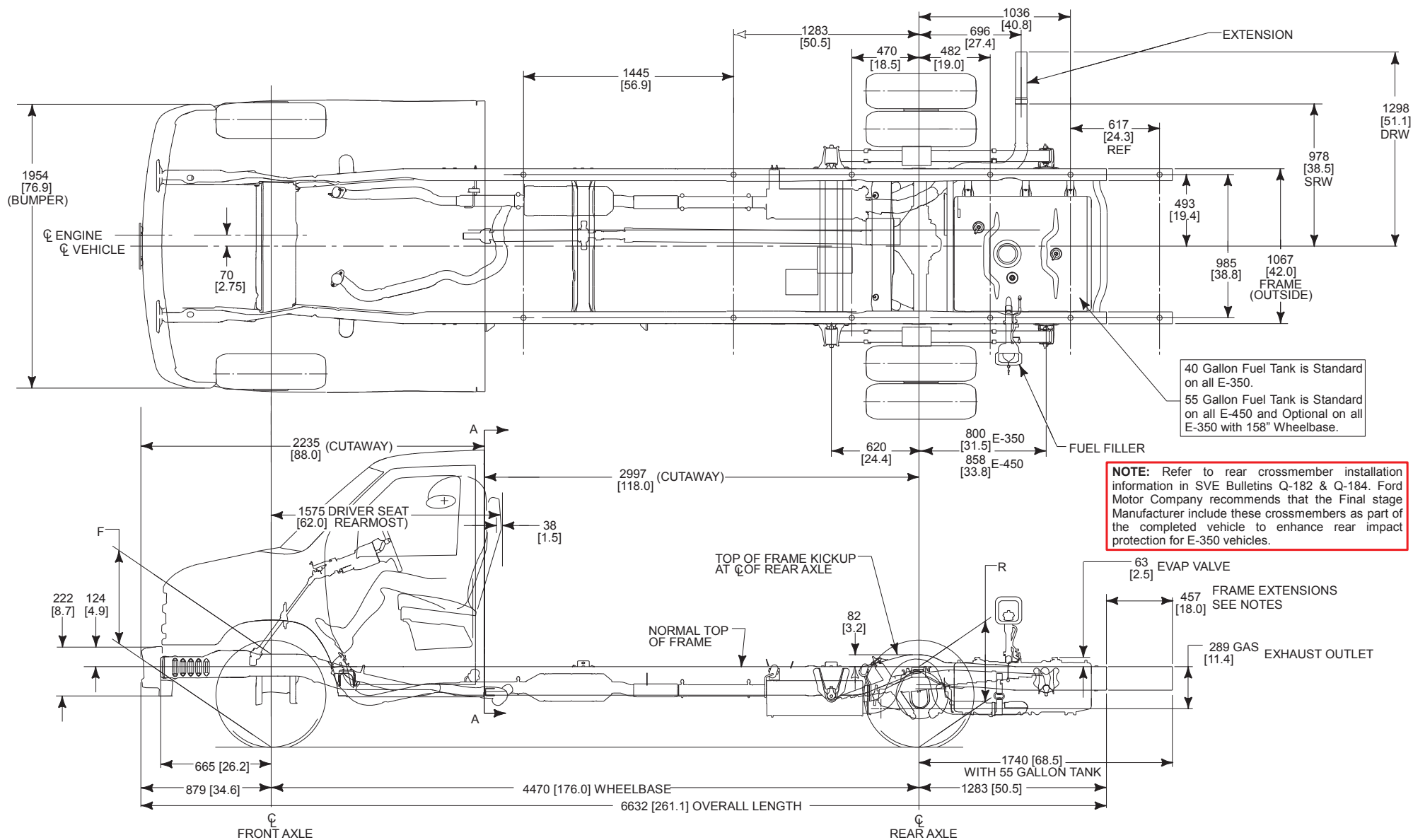


INCLUDES 6 LATERAL FRAME SPACERS WITH 12 BODY MOUNTS. USES SAME FRAME HOLES FOR LONGITUDINAL/LATERAL FRAME SPACER STANDARD SYSTEM.



NOTE — [] DIMENSIONS ARE INCHES.

E-SERIES DIMENSIONAL DATA E-350/450 SUPER DUTY CUTAWAY 176" WB (DRW)

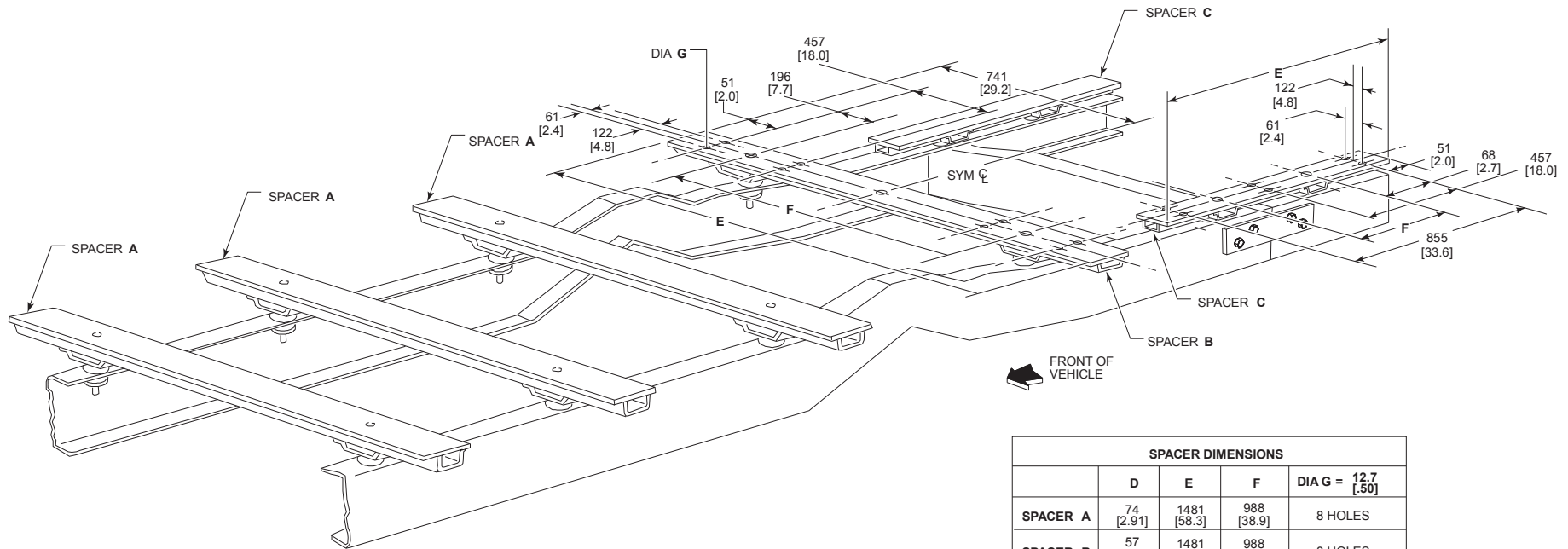


NOTES — [] DIMENSIONS ARE INCHES.
— FOR CA DIMENSION, SEE MODEL LINEUP.

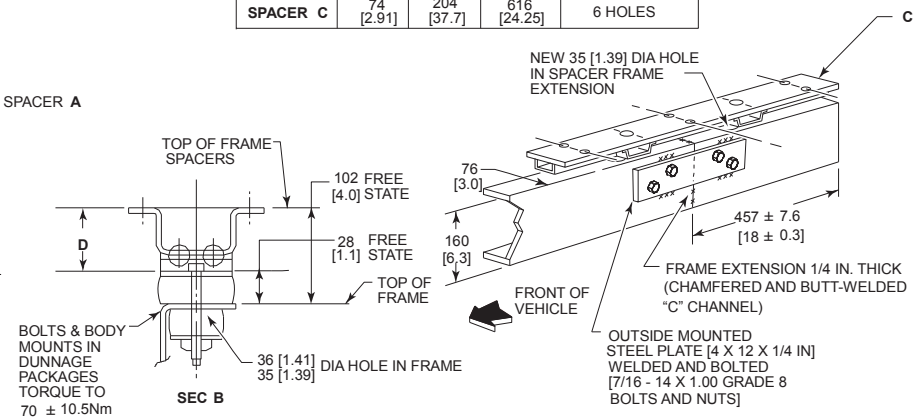
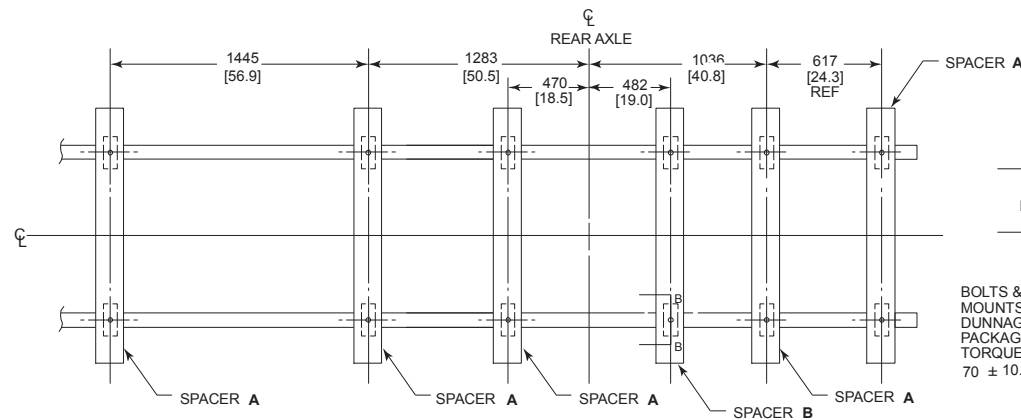
(Cont'd next page)

E-SERIES DIMENSIONAL DATA

E-350/450 SUPER DUTY CUTAWAY 176" WB (DRW) (Cont'd)



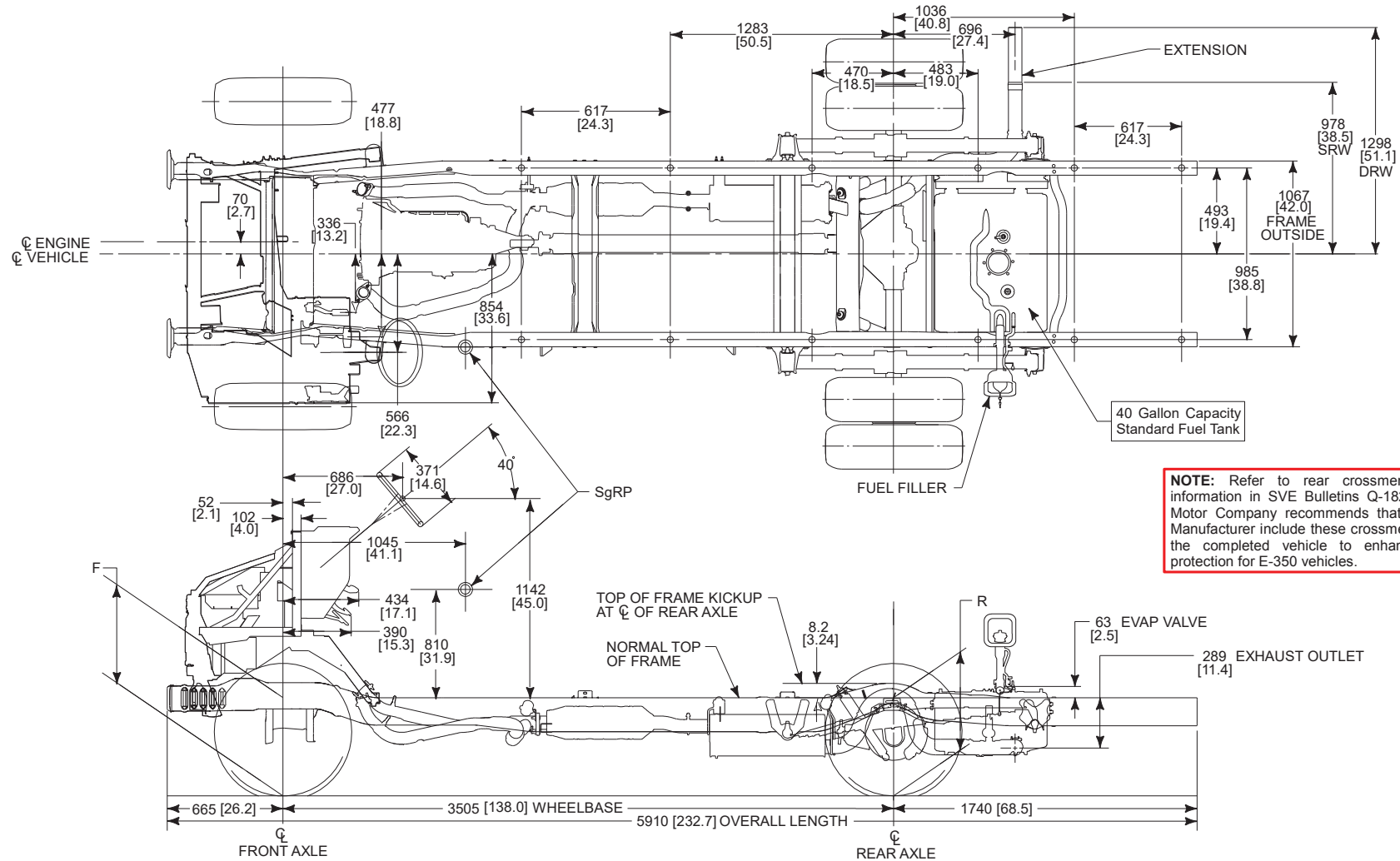
SPACER DIMENSIONS				
	D	E	F	DIA G = 12.7 [0.50]
SPACER A	74 [2.91]	1481 [58.3]	988 [38.9]	8 HOLES
SPACER B	57 [2.26]	1481 [58.3]	988 [38.9]	8 HOLES
SPACER C	74 [2.91]	204 [37.7]	616 [24.25]	6 HOLES



NOTE — [] DIMENSIONS ARE INCHES.

E-SERIES DIMENSIONAL DATA

E-350 SUPER DUTY STRIPPED CHASSIS 138" WB (DRW)

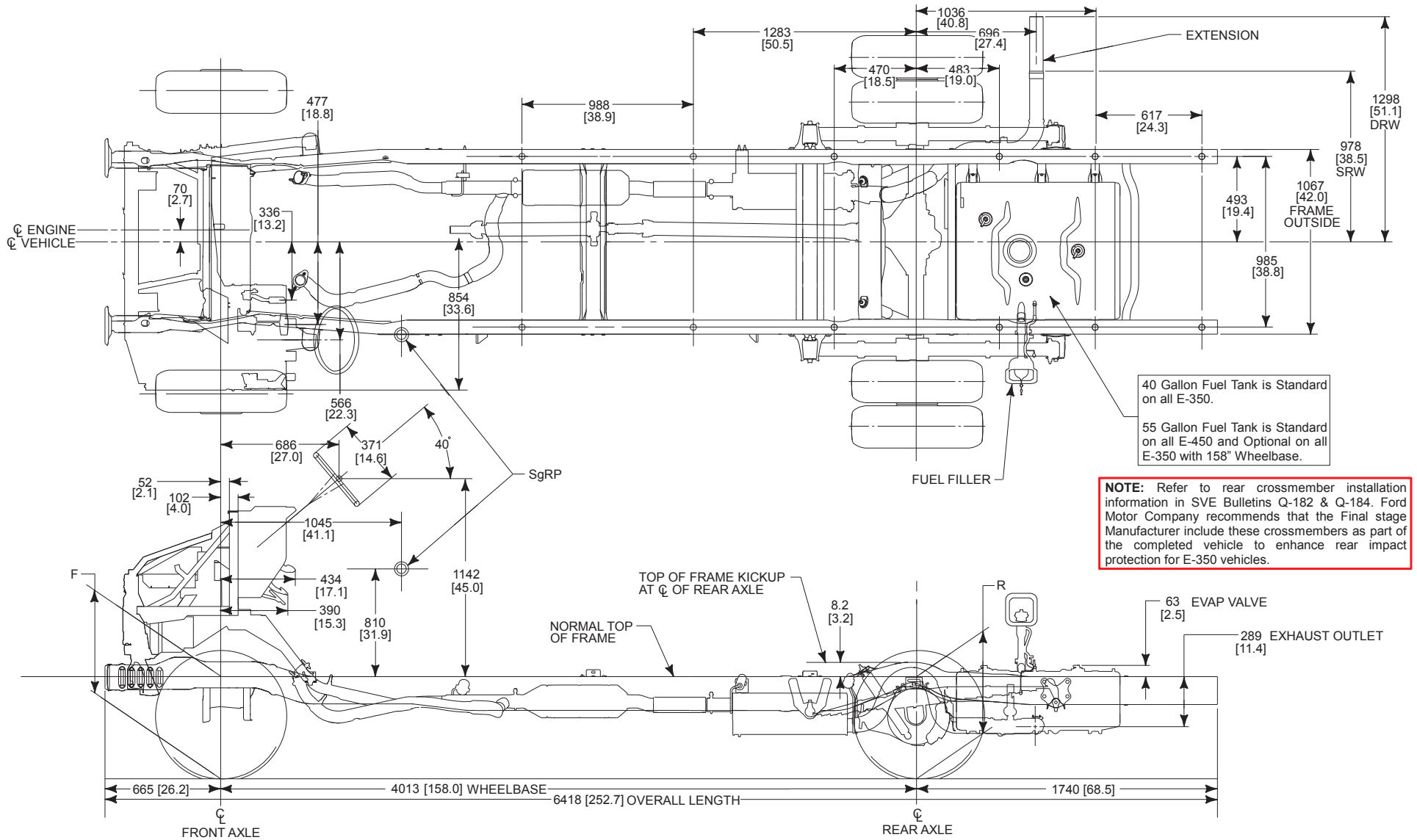


NOTE: Refer to rear crossmember installation information in SVE Bulletins Q-182 & Q-184. Ford Motor Company recommends that the Final stage Manufacturer include these crossmembers as part of the completed vehicle to enhance rear impact protection for E-350 vehicles.

NOTE — [] DIMENSIONS ARE INCHES.

E-SERIES DIMENSIONAL DATA

E-350 SUPER DUTY STRIPPED CHASSIS 158" WB (DRW)



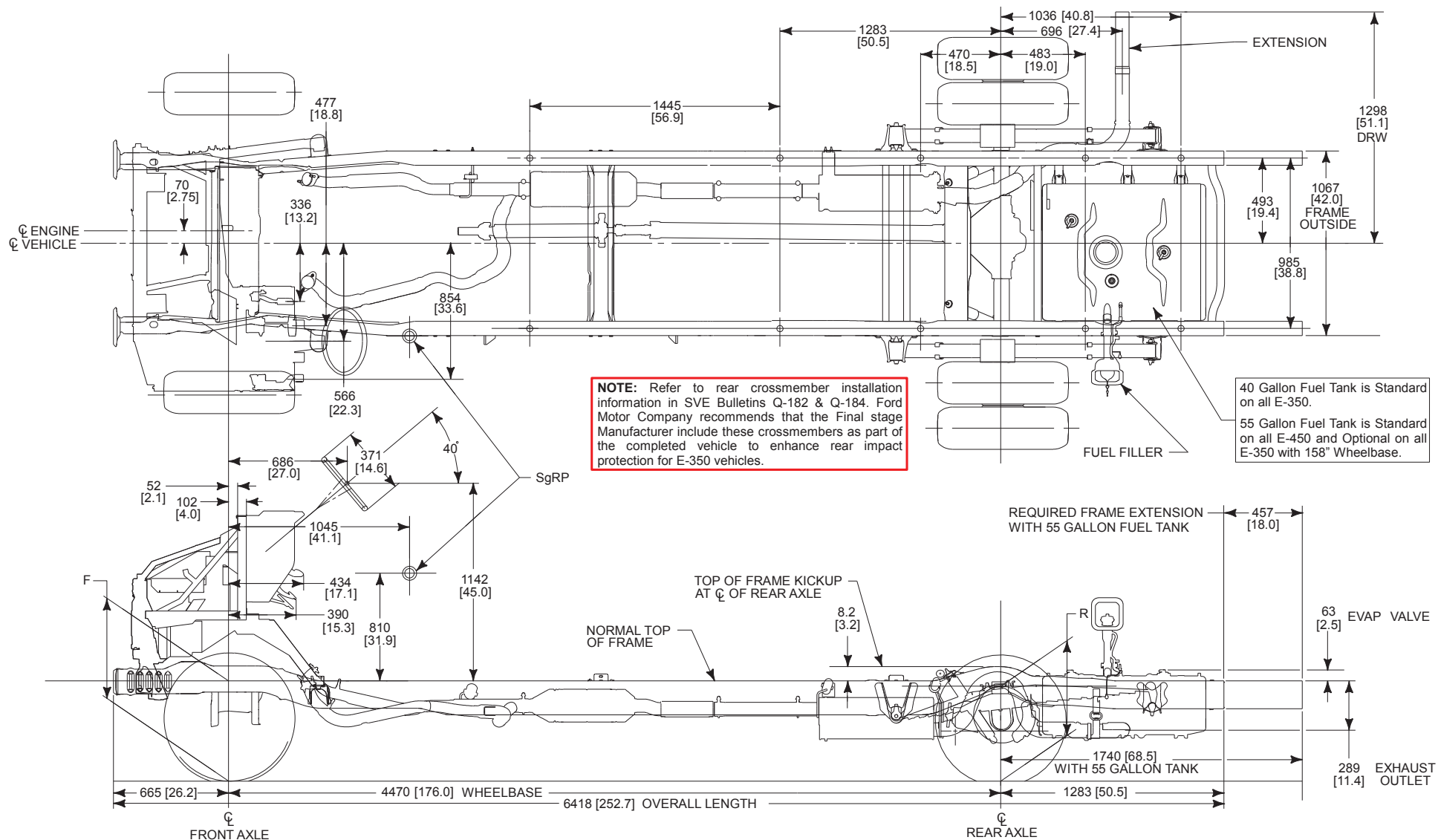
40 Gallon Fuel Tank is Standard on all E-350.

55 Gallon Fuel Tank is Standard on all E-450 and Optional on all E-350 with 158" Wheelbase.

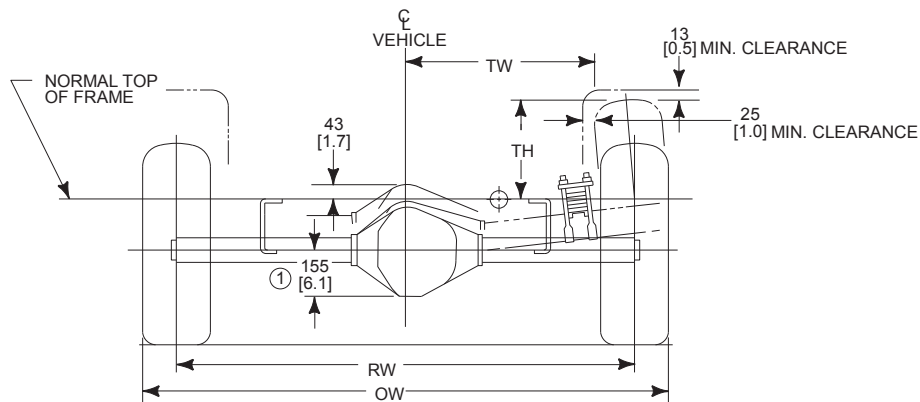
NOTE: Refer to rear crossmember installation information in SVE Bulletins Q-182 & Q-184. Ford Motor Company recommends that the Final stage Manufacturer include these crossmembers as part of the completed vehicle to enhance rear impact protection for E-350 vehicles.

E-SERIES DIMENSIONAL DATA

E-350/450 SUPER DUTY STRIPPED CHASSIS 176" WB (DRW)

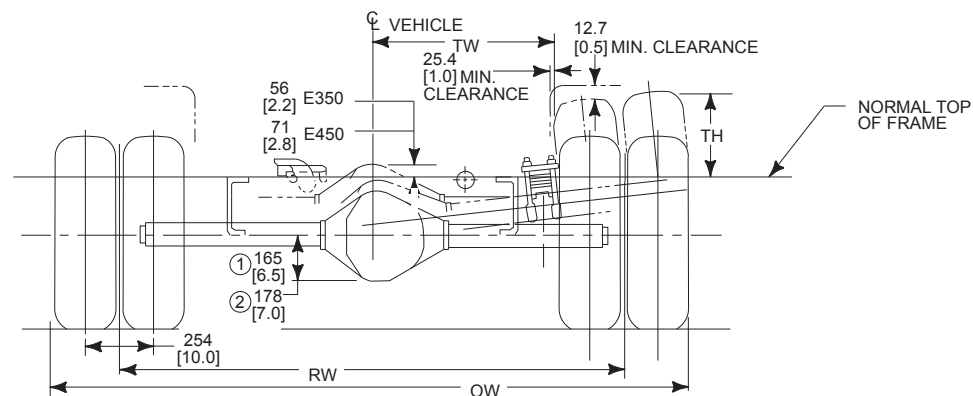


NOTE — [] DIMENSIONS ARE INCHES.



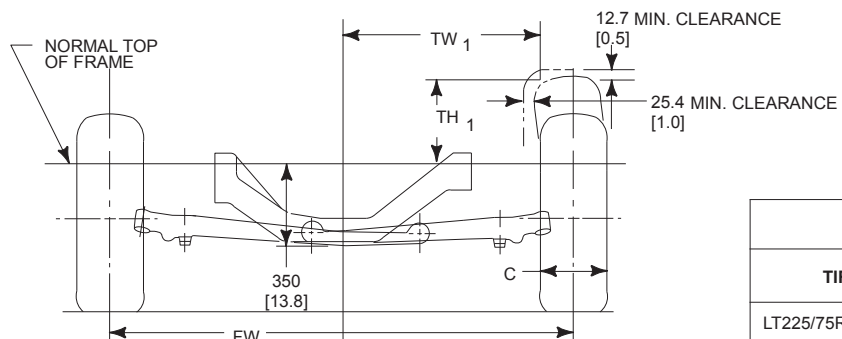
① 7800 LB AXLE USED AT 10,050 LB GVWR
CUTAWAY APPLICATIONS

**REAR SUSPENSION (SRW)
REAR VIEW**



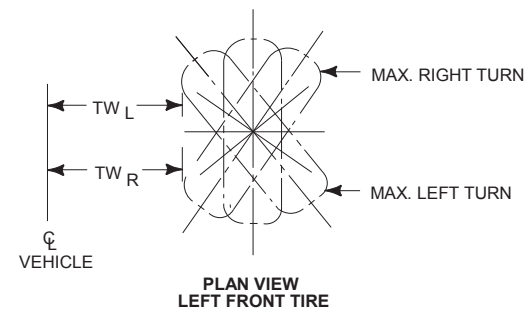
① 8500 LB AXLE USED AT 11,500, 12500 LB GVWR
② 9600 LB AXLE USED AT 14,000, 14500 LB GVWR FOR E-450

**REAR SUSPENSION (DRW)
REAR VIEW**



**VEHICLE
FRONT SUSPENSION
FRONT VIEW**

FRONT SUSPENSION				
TIRE	TW ₁	TH ₁	TW _L	TW _R
LT225/75R16E	655 [25.8]	302 [11.9]	549 [21.6]	521 [20.5]
LT245/75R16E	655 [25.8]	320 [12.6]	549 [21.6]	521 [20.5]



TW = DISTANCE FROM ϕ OF VEHICLE TO
SIDE OF TIRE IN MODIFIED JOUNCE.
TH = DISTANCE FROM NORMAL TOP OF
FRAME TO TOP OF TIRE IN MODIFIED
JOUNCE.

NOTE — [] DIMENSIONS ARE INCHES.
(Cont'd next page)



Body Builders Layout Book

13

E-SERIES

E-SERIES

AXLE / TIRE / WHEELHOUSE / VEHICLE HEIGHT DATA (Cont'd)

2018

MODEL YEAR

MODEL	WB inches	GVWR pounds	MINIMUM TIRE	FRONT GAWR MIN/MAX pounds	COMBINED FRONT SPRING CAPACITY RATE pounds	F HEIGHT AT FRONT AXLE (1)		REAR GAWR MAX pounds	COMBINED REAR SPRING CAPACITY RATE pounds	R HEIGHT AT REAR AXLE (1)		CH OVERALL HEIGHT OF VEHICLE (STANDARD SPRINGS) (1) mm [in]	
						BASE CURB WEIGHT mm [in]	LOADED mm [in]			BASE CURB WEIGHT mm [in]	LOADED mm [in]	CURB	LOADED
					STD SPRING	STD SPRING	STD SPRING		STD SPRING	STD SPRING	STD SPRING		
CUTAWAY													
E-350 SD	138	10,050 SRW	LT245/75R16E	4050/4200	4050/4200	577 [22.7]	528 [20.8]	6084	7810	652 [25.7]	576 [22.7]	2099 [82.6]	2040 [80.3]
		11,500 DRW	LT225/75R16E	4050/4600	4600	571 [22.5]	525 [20.7]	7800	8600	658 [25.9]	583 [23.0]	2098 [82.6]	2039 [80.3]
	158	10,050 SRW	LT245/75R16E	4200	4200	600 [23.6]	532 [21.0]	6084	7810	676 [26.5]	576 [22.7]	2121 [83.5]	2040 [80.3]
		11,500 DRW	LT225/75R16E	4050/4600	4050/4600	572 [22.5]	525 [20.7]	7800	8600	657 [25.9]	583 [23.0]	2094 [82.4]	2043 [80.4]
		12,500 DRW		4600/5000	4600/5000	591 [23.3]	523 [20.6]	8500	8600	664 [26.1]	582 [22.9]	2109 [83.0]	2034 [80.1]
	176	12,500 DRW		4600/5000	5000	582 [22.9]	524 [20.6]	8500	8600	665 [26.1]	582 [22.9]	2100 [82.7]	2032 [80.0]
E-450 SD	158	14,000 DRW	LT225/75R16E	4600/5000	4600/5000	592 [23.3]	523 [20.6]	9600	9600	691 [27.2]	608 [23.9]	2118 [83.4]	2045 [80.5]
		14,500 DRW		5000	5000	596 [23.5]	521 [20.5]	9600	9600	691 [27.2]	608 [23.9]	2121 [83.5]	2033 [80.1]
	176	14,000 DRW		4600/5000	4600/5000	586 [23.1]	521 [20.5]	9600	9600	692 [27.2]	608 [23.9]	2112 [83.1]	2042 [80.4]
		14,500 DRW		5000	5000	594 [23.4]	521 [20.5]	9600	9600	692 [27.2]	608 [23.9]	2116 [83.3]	2042 [80.4]
STRIPPED CHASSIS													
E-350 SD	138	11,500 DRW	LT225/75R16E	4200/4600	4600	608 [23.9]	524 [20.7]	7800	7800	657 [25.9]	583 [23.0]	—	—
	158	12,500 DRW		4600/5000	5000	618 [24.3]	523 [20.6]	8500	8500	664 [26.1]	582 [22.9]	—	—
	176	12,500 DRW		4600/5000	5000	616 [24.3]	523 [20.6]	8500	8500	664 [26.1]	582 [22.9]	—	—
E-450 SD	158	14,000 DRW	LT225/75R16E	4600/5000	5000	617 [24.3]	523 [20.6]	9500	9500	693 [27.3]	608 [23.9]	—	—
		14,500 DRW		5000	5000	624 [24.4]	521 [20.5]	9500	9500	693 [27.3]	608 [23.9]	—	—
	176	14,000 DRW		4600/5000	5000	—	522 [20.6]	9500	9500	—	577 [22.7]	—	—
		14,500 DRW		5000	5000	—	521 [20.5]	9500	9500	—	579 [22.8]	—	—

(1) The Height Data shown represents dimensions of a nominal vehicle with no options. Actual height may vary due to production tolerances.

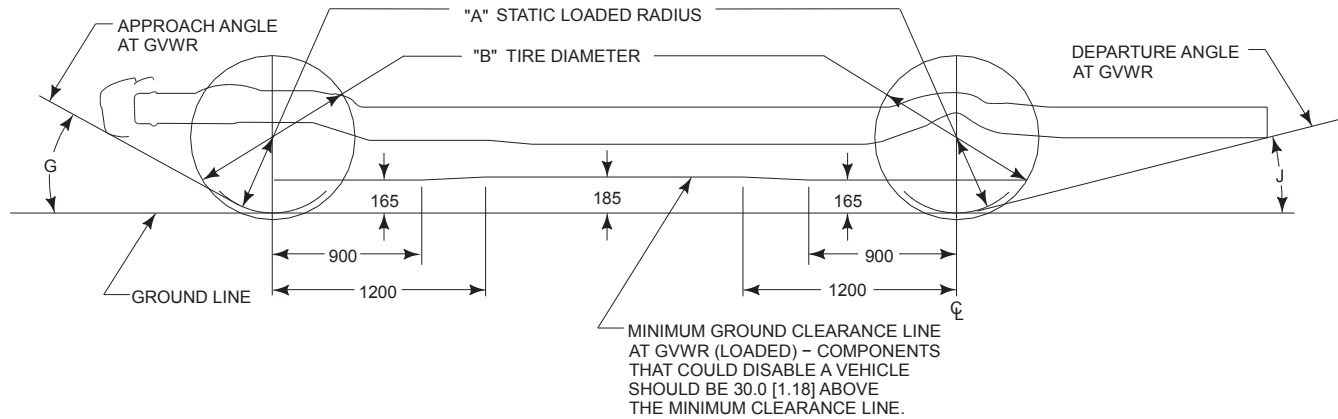
SRW - Single Rear Wheels

DRW - Dual Rear Wheels

NOTE — [] DIMENSIONS ARE INCHES.



E-SERIES GROUND CLEARANCE APPROACH & DEPARTURE ANGLES



BASE VEHICLE LOADED

MODEL	TIRE SIZE	ALL SEASON TIRE DATA				TREAD WIDTH		OW	TH	TW	GROUND CLEARANCE					
		A	B	C		FW	RW	OVERALL WIDTH	STD	STD	G			J		
		STATIC LOADED RADIUS	MAX. DIAMETER	MAX. SECTION WIDTH	RIM WIDTH	FRONT	REAR	REAR	SPRING	SPRING	APPROACH ANGLE			DEPARTURE ANGLE		
											138" WB	158" WB	176" WB	138" WB	158" WB	176" WB
E-350 Cutaway SRW (Aft-of-Axle Fuel Tank)	LT245/75R16E	356 [14.0]	787 [31.0]	263 [10.3]	178 [7.0]	1763 [69.4]	1831 [72.1]	2094 [82.4]	307 [12.1]	710 [28.0]	21°	N/A	N/A	15°	N/A	N/A
E-350 Cutaway DRW	LT225/75R16E	346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1915 [75.4]	2405 [94.7]	329 [12.9]	684 [26.9]	22°	22°	22°	15°	15° ♦	20° ♦
E-450 Cutaway DRW		346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1974 [77.7]	2464 [97.0]	325 [12.8]	743 [29.2]	N/A	27°	27°	N/A	16° ♦	21° ♦
E-350 Stripped Chassis DRW		346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1915 [75.4]	2405 [94.7]	329 [12.9]	684 [26.9]	40°	33°	34°	21°	18°	24°
E-450 Stripped Chassis DRW		346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1974 [77.7]	2464 [97.0]	325 [12.8]	743 [29.2]	N/A	39°	35°	N/A	16° ♦	18° ♦

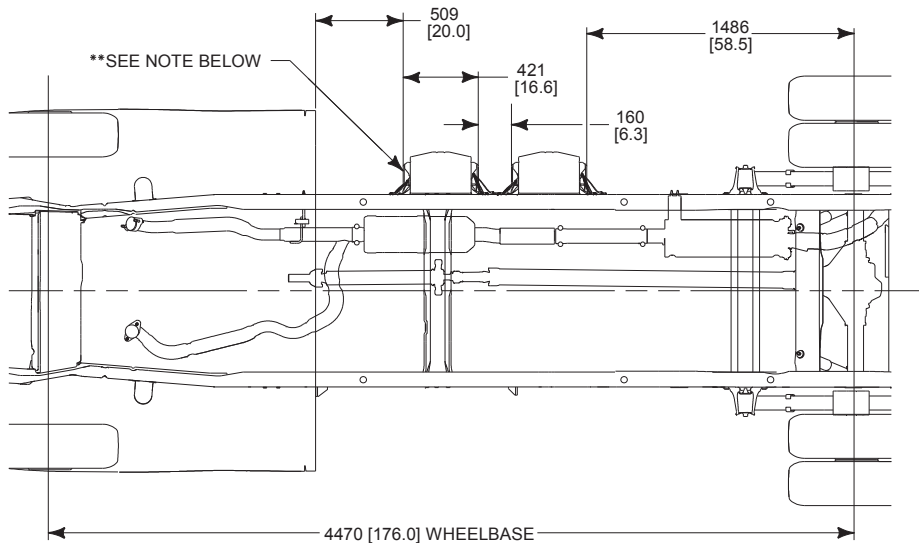
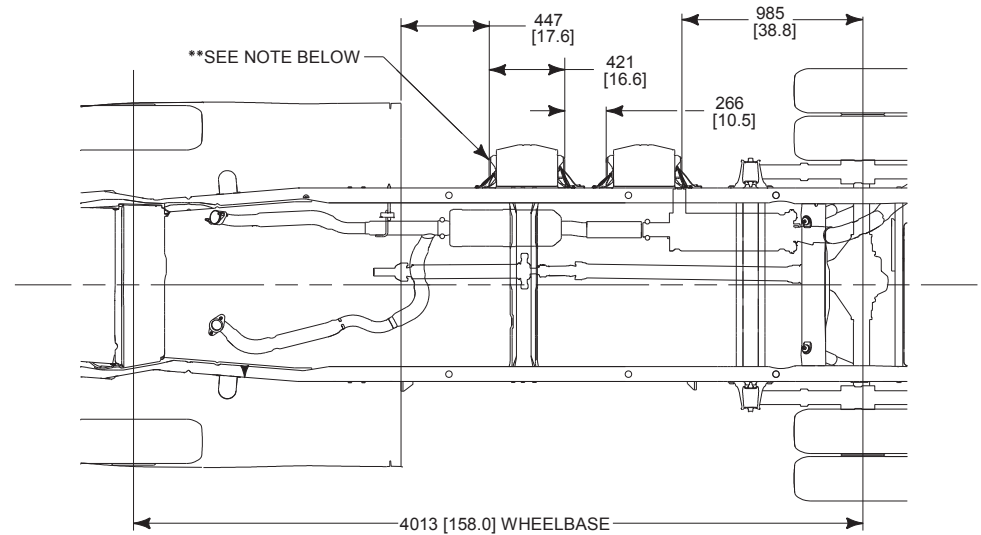
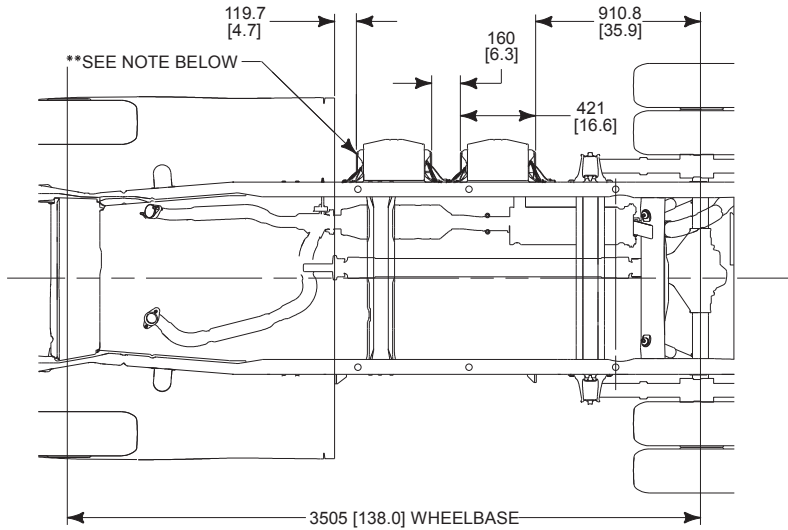
♦ 55-gallon tank and 18 inch frame extension

NOTE — [] DIMENSIONS ARE INCHES.

E-SERIES

BATTERY BOX LOCATIONS

E-350/450 DUAL BATTERIES & GASOLINE W/ AUXILIARY BATTERY



The guidelines below must be followed when repositioning the battery box

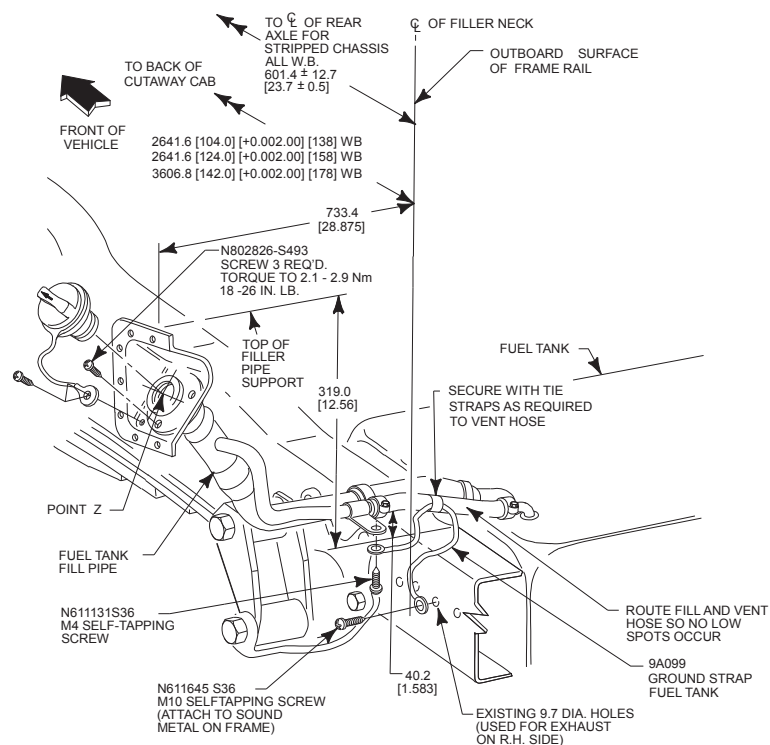
- Maintain attachment hole diameter of (12 mm)
- Maintain use of existing OEM bolts (M10)
- The battery box must NOT be packaged any lower in vehicle position than is provided by Ford
- All new frame holes must be at least 1x hole diameter away from all other holes & 1½ diameter away from the edge of a radius tangent
- Battery boxes may not be moved rearward of position provided by Ford

NOTES — [] DIMENSIONS ARE INCHES.

— ** PLACEMENT FOR GAS ENGINES
W/ AUXILIARY BATTERY OPTION.

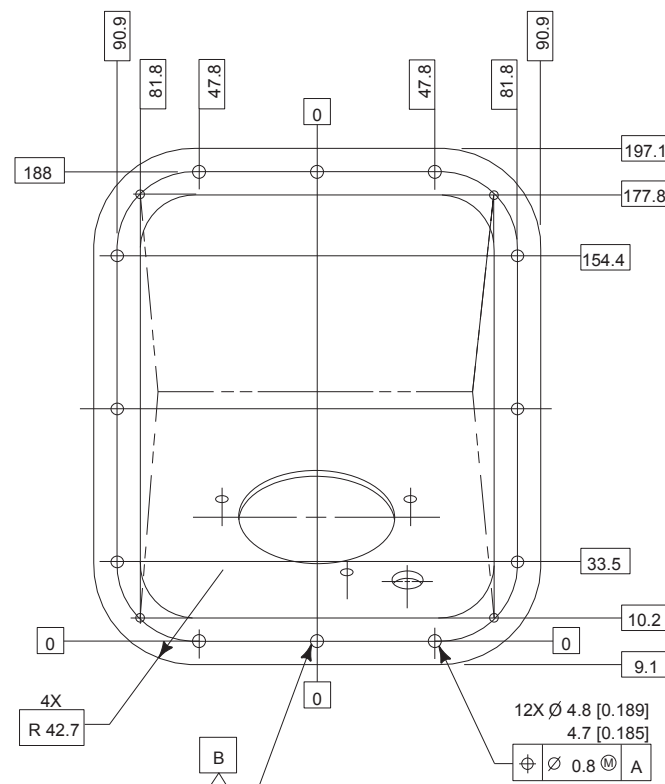


E-SERIES FUEL FILLER PIPE



TORQUE ALL WORM GEAR DRIVEN
HOSE CLAMPS TO 2.9 - 4.3 NM
25 - 38 IN-LB

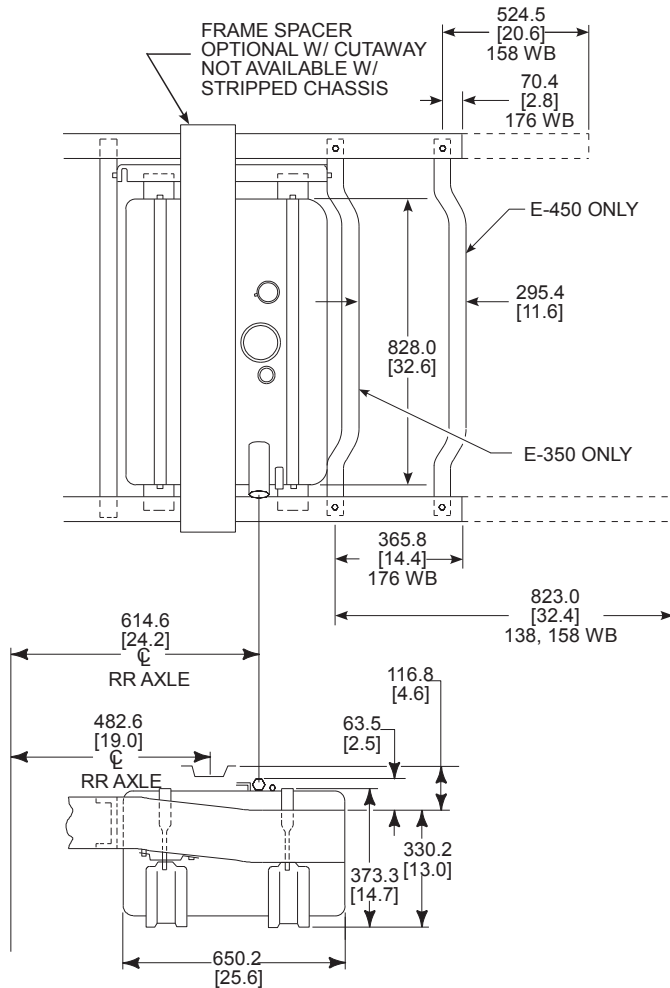
▽ CRITICAL CONTROL ITEM



NOTE — [] DIMENSIONS ARE INCHES.

E-SERIES DIMENSIONAL DATA

E-350 SUPER DUTY CUTAWAY 138" WB (SRW / DRW)



40 GALLON TANK

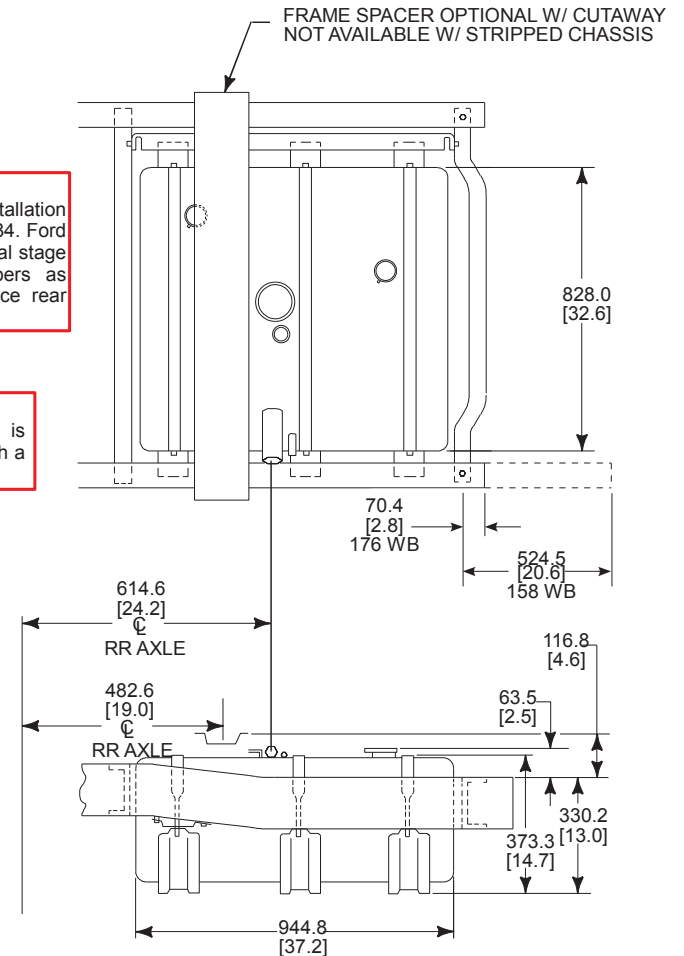
E-350: 138", 158", 176" WB
E-450: 158", 176" WB

NOTE:

Refer to rear crossmember installation information in SVE Bulletins Q-182 & Q-184. Ford Motor Company recommends that the Final stage Manufacturer include these crossmembers as part of the completed vehicle to enhance rear impact protection for E-350 vehicles.

WARNING:

An 18" minimum frame extension is required on the 176" WB frame with a 55 gallon fuel tank.



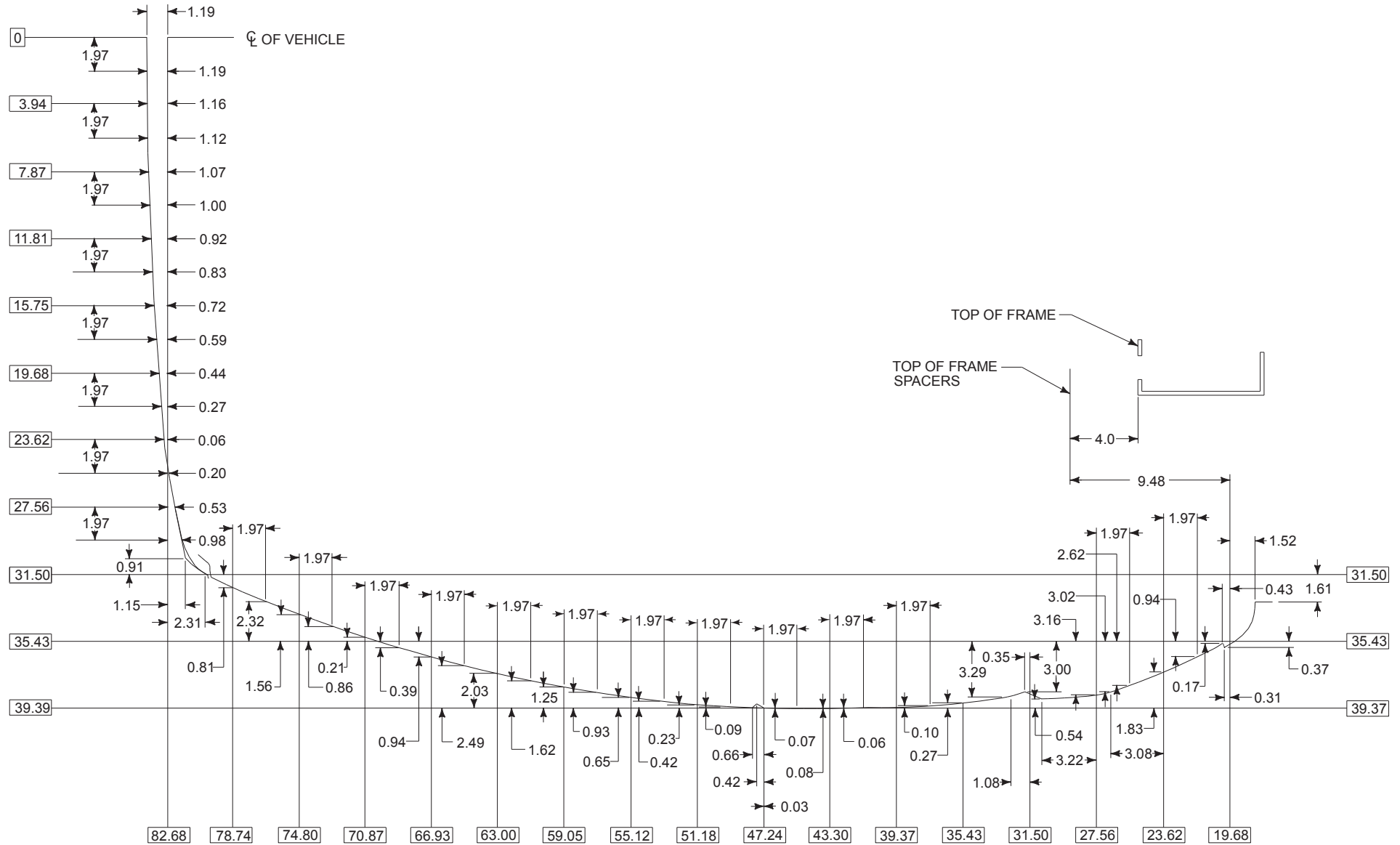
55 GALLON TANK

E-350: 158" WB
E-450: 158", 176" WB

NOTE — [] DIMENSIONS ARE INCHES.

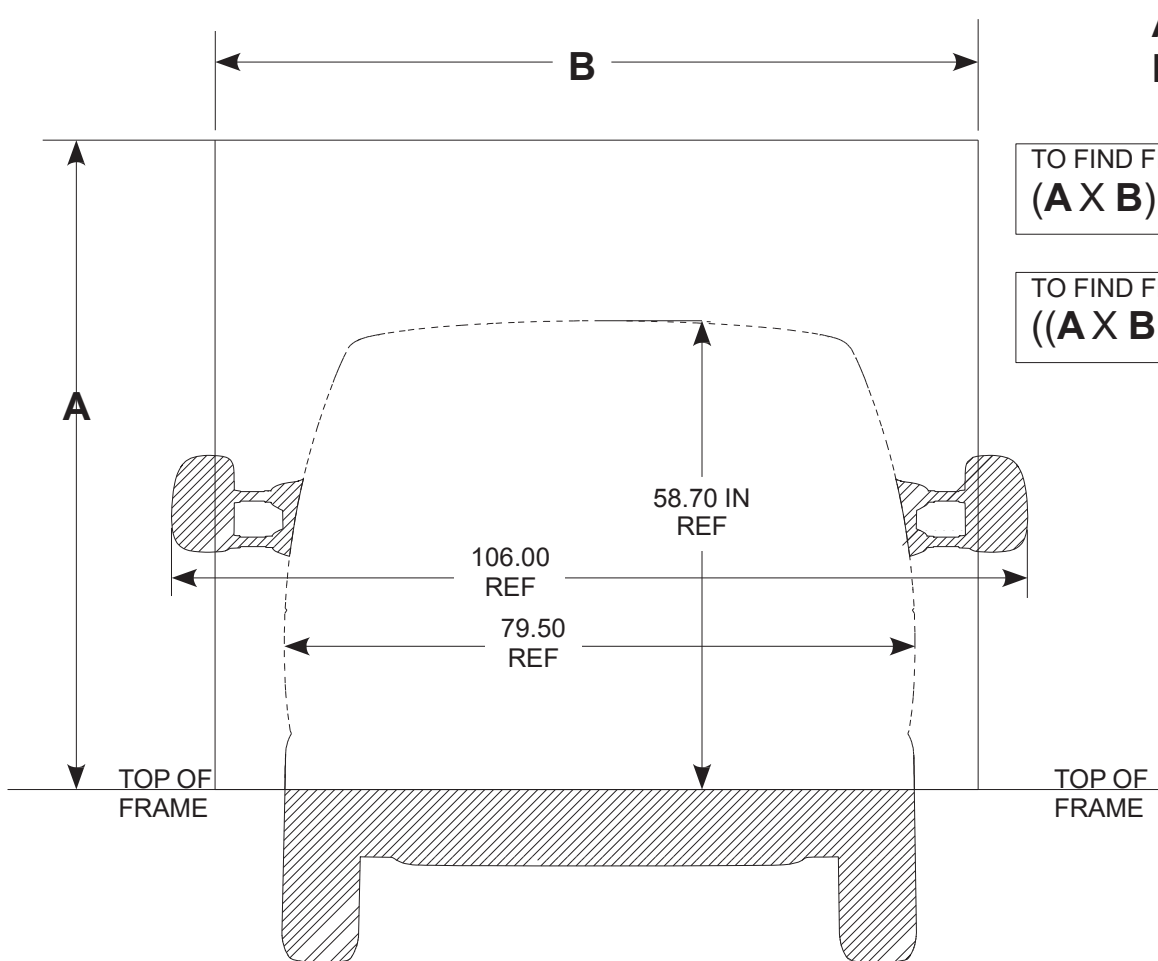


E-SERIES BACK OF CAB PROFILE DIMENSIONS CUTAWAY BODY SECTION "A"



NOTE — [] DIMENSIONS ARE INCHES.

E-SERIES - SRW FRONT SURFACE AREA WORKSHEET CHASSIS CAB / CUTAWAY



A = BOX HEIGHT IN INCHES

B = BOX WIDTH IN INCHES

TO FIND FRONT SURFACE AREA IN SQ INCHES
(A X B) + 1240.7 =

TO FIND FRONT SURFACE AREA IN SQ FEET
((A X B) / 144) + 8.62 =

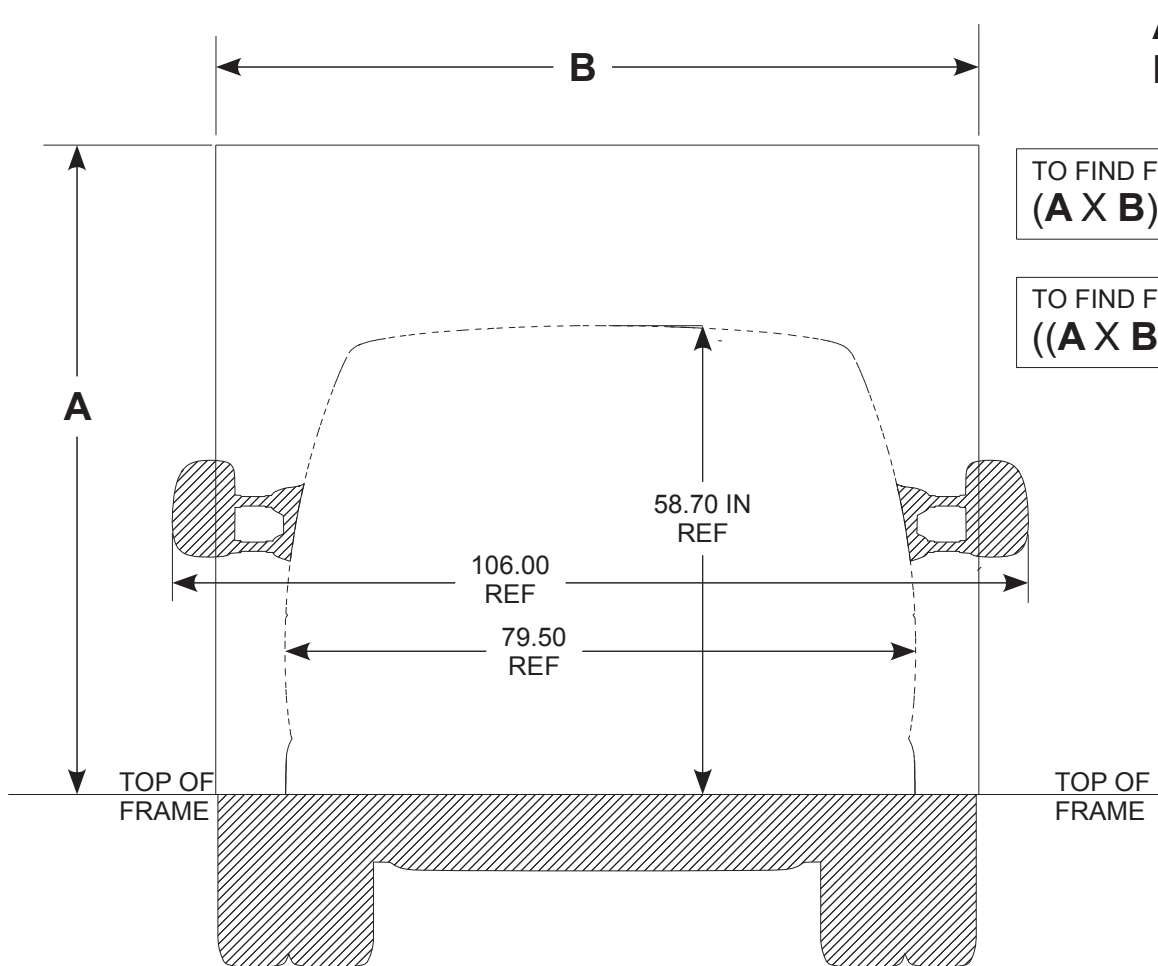
BELOW FRAME SHADED AREA EQUALS
 $624293 / (25.4 \times 25.4) = 967.6560 \text{ SQ. IN.}$
 $967.6560 / (12 \times 12) = 6.7198 \text{ SQ. FT.}$

MIRROR SHADED AREA EQUALS
 $(88087.6 \times 2) / (25.4 \times 25.4) = 273.0721 \text{ SQ. IN.}$
 $273.0721 / (12 \times 12) = 1.8963 \text{ SQ. FT.}$

TOTAL SHADED AREA EQUALS
 $800468.2 / (25.4 \times 25.4) = 1240.7281 \text{ SQ. IN.}$
 $1429.6698 / (12 \times 12) = 8.6161 \text{ SQ. FT.}$

NOTE — DIMENSIONS ARE INCHES.

E-SERIES - DRW FRONT SURFACE AREA WORKSHEET CHASSIS CAB / CUTAWAY



A = BOX HEIGHT IN INCHES

B = BOX WIDTH IN INCHES

TO FIND FRONT SURFACE AREA IN SQ INCHES
 $(A \times B) + 1632.1 =$

TO FIND FRONT SURFACE AREA IN SQ FEET
 $((A \times B) / 144) + 11.33 =$

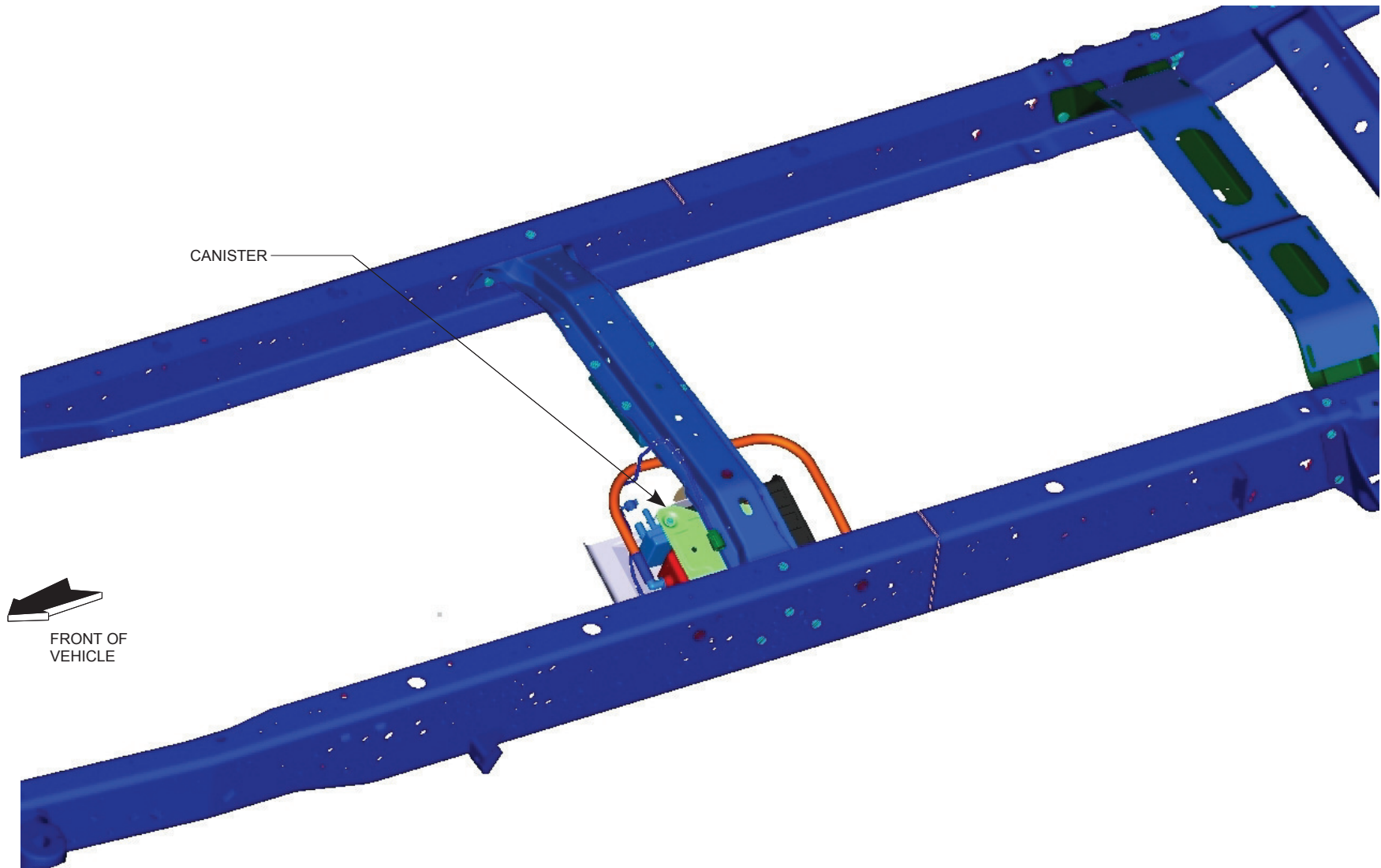
BELOW FRAME SHADED AREA EQUALS
 $876808.0 / (25.4 \times 25.4) = 1359.0551 \text{ SQ. IN.}$
 $1359.0551 / (12 \times 12) = 9.4379 \text{ SQ. FT.}$

MIRROR SHADED AREA EQUALS
 $(88087.6 \times 2) / (25.4 \times 25.4) = 273.0721 \text{ SQ. IN.}$
 $273.0721 / (12 \times 12) = 1.8963 \text{ SQ. FT.}$

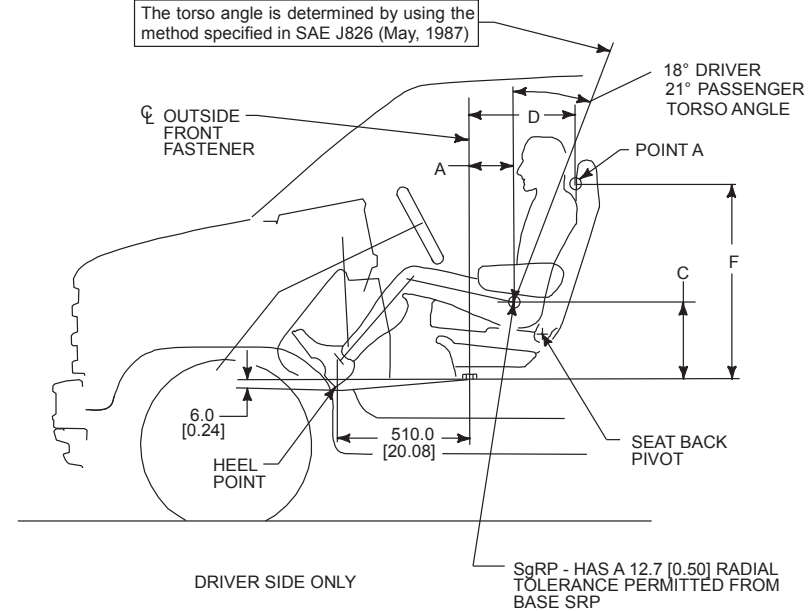
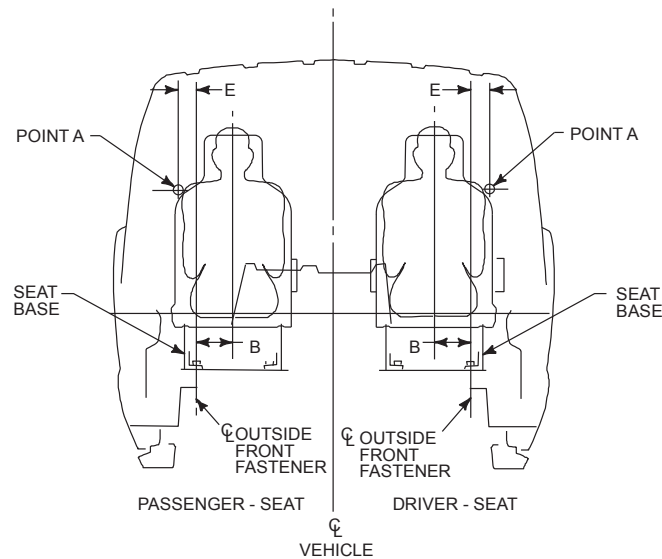
TOTAL SHADED AREA EQUALS
 $1052983.2 / (25.4 \times 25.4) = 1632.1272 \text{ SQ. IN.}$
 $1632.1272 / (12 \times 12) = 11.3342 \text{ SQ. FT.}$

NOTE — DIMENSIONS ARE INCHES.

**AFT-OF-AXLE FUEL TANK EVAPORATIVE EMISSIONS CANISTER LOCATION
CUTAWAY**



E-SERIES SEAT POSITION E-250/350/450 SUPER DUTY CUTAWAY



IMPORTANT:

The dimensions in this figure require the vehicle to be at Design Position. E-Series vehicles at Design Position will be level front to rear, and side to side, on the upper surface of the ribbed floor panel from the B-pillar rearward.

SRP INFORMATION (SEAT POSITION IS 10.0 mm [0.39] FORWARD OF REARMOST POSITION)				POINT A (SEAT POSITION IS AT THE MIDPOINT OF AVAILABLE TRAVEL)		
SEAT	A	B	C	D	E	F
DRIVER	217.8 [8.57]	105.0 [4.13]	384.2 [15.13]	356.0 [14.01]	67.0 [2.64]	937.4 [36.90]
PASSENGER	277.3 [10.92]	103.0 [4.06]	377.0 [14.84]	412.0 [16.22]	65.0 [2.56]	960.1 [37.80]

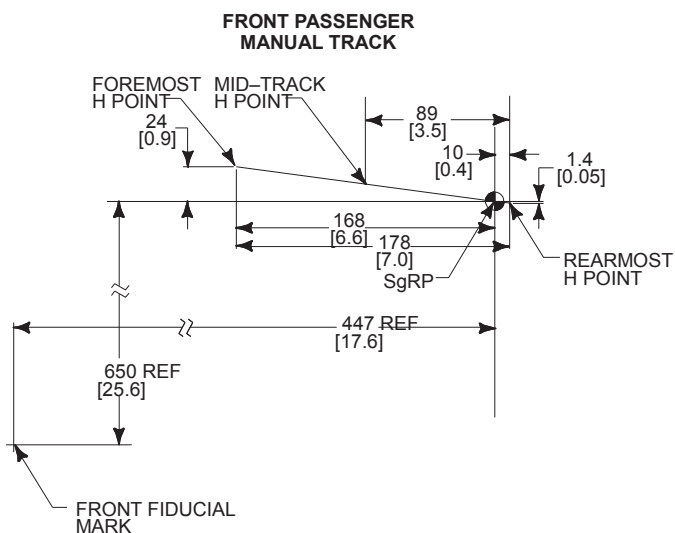
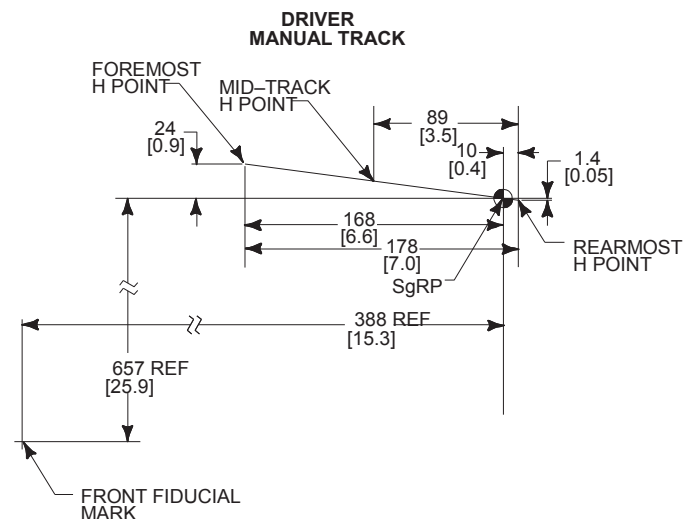
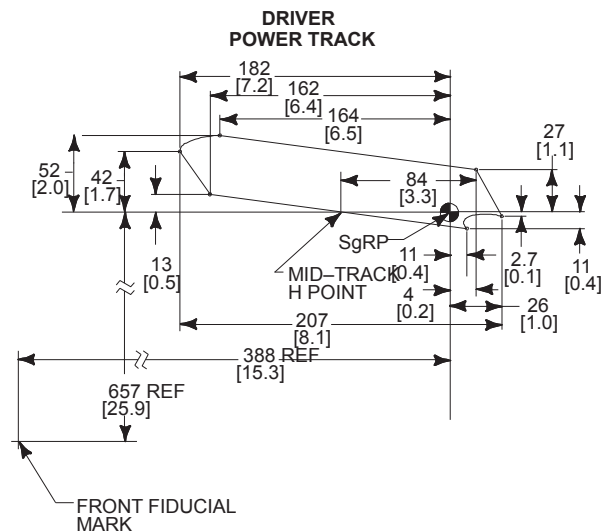
CODE	DESCRIPTION	DIMENSION
FRONT COMPARTMENT		
L34	MAXIMUM EFFECTIVE LEG ROOM – FRONT	1015 [40.0]
W3	SHOULDER ROOM – FRONT	1729 [68.1]
W5	HIP ROOM – FRONT	1667 [65.6]
W117	BODY WIDTH AT H-POINT	1996 [78.6]
H61	EFFECTIVE HEAD ROOM – FRONT	1070 [42.1]

NOTE — [] DIMENSIONS ARE INCHES.



E-SERIES

SEAT TRACK TRAVEL / H-POINT LOCATION



NOTES — [] DIMENSIONS ARE INCHES.

THIS SEAT INFORMATION IS PROVIDED TO ASSIST IN THE INSTALLATION OF SEATS OTHER THAN FORD INSTALLED SEATS AND TO HELP PRESERVE THE INTENDED PERFORMANCE OF THE SAFETY AND ERGONOMIC FEATURES OF THE E-SERIES. THE MID-TRACK H-POINT LOCATION MUST BE MAINTAINED IN ORDER TO COMPLY WITH F/CMVSS 208 AIRBAG REQUIREMENTS.